Siuslaw River Bridge (Richardson Bridge)
(Prineville Bridge)
Spanning the Siuslaw River on Richardson Road
(County Road 5018)
Walton vicinity
Lane County
Oregon

HAER No. OR-10

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Western Regional Office
National Park Service

U. S. Department of the Interior
San Francisco, California 94102

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HISTORIC AMERICAN ENGINEERING RECORD

Siuslaw River Bridge (Richardson Bridge)
(formerly Prineville Bridge)

HAER No. OR-10

Location:	Spanning the Siuslaw River on Richardson Road in a rural area approximately eight miles west of the city of Walton in western Lane County, Oregon. UTM: 4.872.590m. North; 443.840 m. East Quad: Blachley, Lane County, Oregon
Date of Construction:	1912. Relocated in 1956 to present site.
Builder/Designer:	Coast Bridge Company of Portland, Oregon
Present Owner:	Lane County Board of Commissioners Lane County Courthouse 125 E. 8th Street Eugene, Oregon 97401
Present Use:	Vehicular traffic, load limited.
Significance:	The Siuslaw River Bridge is the oldest extant through truss with riveted connections and one of two steel through truss bridges using the double intersection Warren truss in Oregon
Cultural Resources Specialist:	Maxine Banks April 1986
Edited, Retyped & Transmitted by:	Jean P. Yearby, HAER, 1987

LOCATION

The Siuslaw River (Richardson Bridge) is located on Richardson Road, County Road 5018, in a rural area approximately eight miles west of the city of Walton in the Coast Range of western Lane County, Oregon. The bridge crosses the Siuslaw River about 25 miles upstream from the river mouth (at the city of Florence on the central Oregon coast). Richardson Road is short and connects Stagecoach Road and Richardson Upriver Road with Oregon State Highway 126, a major route between the southern Willamette Valley and the Oregon Coast (see Project Vicinity maps, Figures 1 and 2).

The present location is the second site for this particular bridge. It was originally constructed to cross the Crooked River in Crook County near Prineville in central Oregon. The structure, which was called the Prineville Bridge, was moved to the present site in 1956, and the best available information indicates that it had not been relocated prior to that time.

DESCRIPTION

The bridge is 18 feet wide and has a total length of 236 feet, including the central span which is a 124-foot long steel through truss of double-intersecting Warren configuration. The bridge height is 20 feet with vertical clearance of 14 feet 6 inches. The roadway width is 17 feet.

The substructure of the steel truss consists of concrete piers supported on spread footings which are seated on the exposed bedrock of the river channel. Three-span timber approach trestles are located at either end of the central span.

The setting of the bridge is rural in nature, with only three isolated residences in the general vicinity. The Southern Pacific Railroad tracks are located about 200 feet east of the bridge, with a railroad siding approximately 150 feet to the south.

PRESENT USE

The Siuslaw River Bridge is currently used for vehicular traffic but with a 10- or 15-ton load limit, depending upon whether the semi-tractor and trailer trucks have a double or single axle.

The bridge will be removed in the summer of 1986, in preparation for construction of a modern replacement. According to stipulations of the Memorandum of Agreement with the Advisory Council on Historic Preservation, the bridge was advertised for a period of three months.

One proposal for relocation of the structure was received and accepted from the city of Eugene, also in Lane County. Eugene intends to use the bridge for bicycle and pedestrian traffic over Amazon Creek near 11th Avenue and Quaker Street in the western part of the city. The bridge will be dismantled, marked and stored, pending preparation of the relocation site (see Project Vicinity map, Figure 1, for location of Eugene).

HISTORICAL BACKGROUND

The Siuslaw River Bridge, formerly the Prineville Bridge), was constructed by the Coast Bridge Company of Portland, Oregon, in 1912. It originally spanned the Crooked River in Crook County near the city of Prineville in central Oregon, east of the Cascade Range. The span was fabricated by the Northwest Steel Company and sold to Crook County by the Coast Bridge Company, who shipped it to Redmond, 19 miles west of Prineville. The county hauled the bridge to Prineville where it was erected by E. D. Achey. In that location, the bridge was a river crossing for State Highway 126, the same highway near which the structure is currently located on the west side of the Cascades.

According to bridge records of Lane County, the bridge was moved in 1956 from Prineville to the Richardson site, a distance of over 200 miles. It replaced a 20-year-old timber structure which had been washed out by flood waters. The river crossing site was relocated to higher elevation and reconstructed in conjunction with improvement of the Richardson-Siuslaw section of Highway 126.

The structure bears the name of the river, which was named for the Siuslaw Indians, who occupied the river watershed and some adjacent coastal lands. The territory along the river was populated by about 50 Siuslaw Indian villages until appropriated by Euro-American settlement in the 1870s.

SIGNIFICANCE

The Siuslaw River Bridge has been determined eligible for listing in the National Register of Historic Places by the U. S. Department of the Interior. The structures qualifies under criteria C because it embodies distinctive characteristics of a type, period or method of construction. It is significant in the history of bridge engineering, bridge design principles and development of bridge construction techniques.

This structure is a rare and early example of its type in Oregon. It is the oldest extant through truss with riveted connections and one of only two steel through truss bridges using the double-intersection Warren truss (the other double-intersection Warren truss bridge has been judged ineligible for the National Register due to extensive alterations and loss of integrity).

The Warren truss is named for James Warren, one of two British engineers who first patented this truss type in 1848. It enjoyed a slow but steady climb to popularity after 1860, and by 1890 the first steel Warren truss appeared. After World War I, it superseded the Pratt truss in new bridge design, and today it is the only truss type being manufactured.

The Warren truss has diagonal web members that are alternately placed in compression and tension. Its design appeal results from the fact that it has a pure and refined configuration based on the triangle. It reduces the number of structural members needed, reducing the weight of the bridge and decreasing the cost. A Warren truss is readily identifiable by its triangular outline (see drawing of Coast Bridge Company Contract Plan, Figure 3).

The Warren double-intersection truss is sometimes referred to as the quadrangular truss and is characterized by its application of two intersecting triangular web systems creating a diamond-shaped outline. It was used primarily before 1920. Because of increased weight and structural members, it was not as popular as the simple Warren truss. Very few examples have been identified in the United States.

Rivet connections fasten the top and bottom chords of a bridge and allow for a more rigid structure with fewer wearing parts. This type of connection gave the bridge greater load capacity and a longer service life. The rivet connection replaced the pin connection system, which allowed vibrations from moving loads and increased the wear on the pins and eyebar holes. The use of rivet connections increased in the early 20th century with the development of the portable pneumatic riveter, which allowed simple field riveting.

Given the engineering significance of the Siuslaw Bridge, for which it qualified as a National Register property, the fact that it was relocated did not jeopardize its potential eligibility. It was not historically important in association with its original site. At the relocation site, the structure continues to function as a river crossing and maintains its original integrity.

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Comp, T. Allan, and Donald C. Jackson. "Bridge Truss Types: A Guide to Dating and Identifying." American Association for State and Local History. Technical Leaflet 95, History News, Volume 32, No. 5, May 1977.

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Smith, Dwight A.; Norman, James D.; and Dykman, Pieter T. Historic Highway Bridges of Oregon. Oregon Department of Transportation, Salem, Oregon. 1985.

FIGURE 1

PROJECT VICINITY

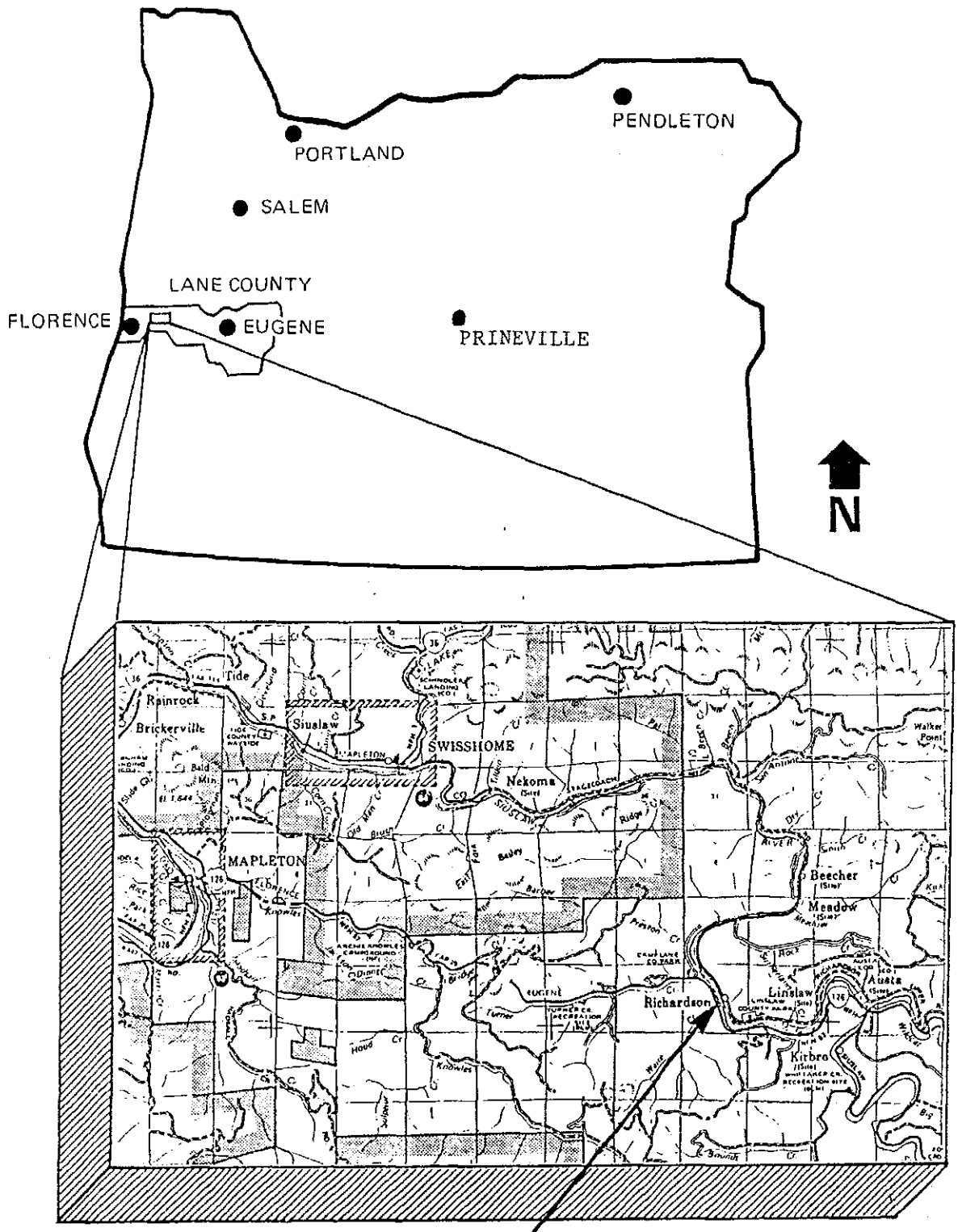
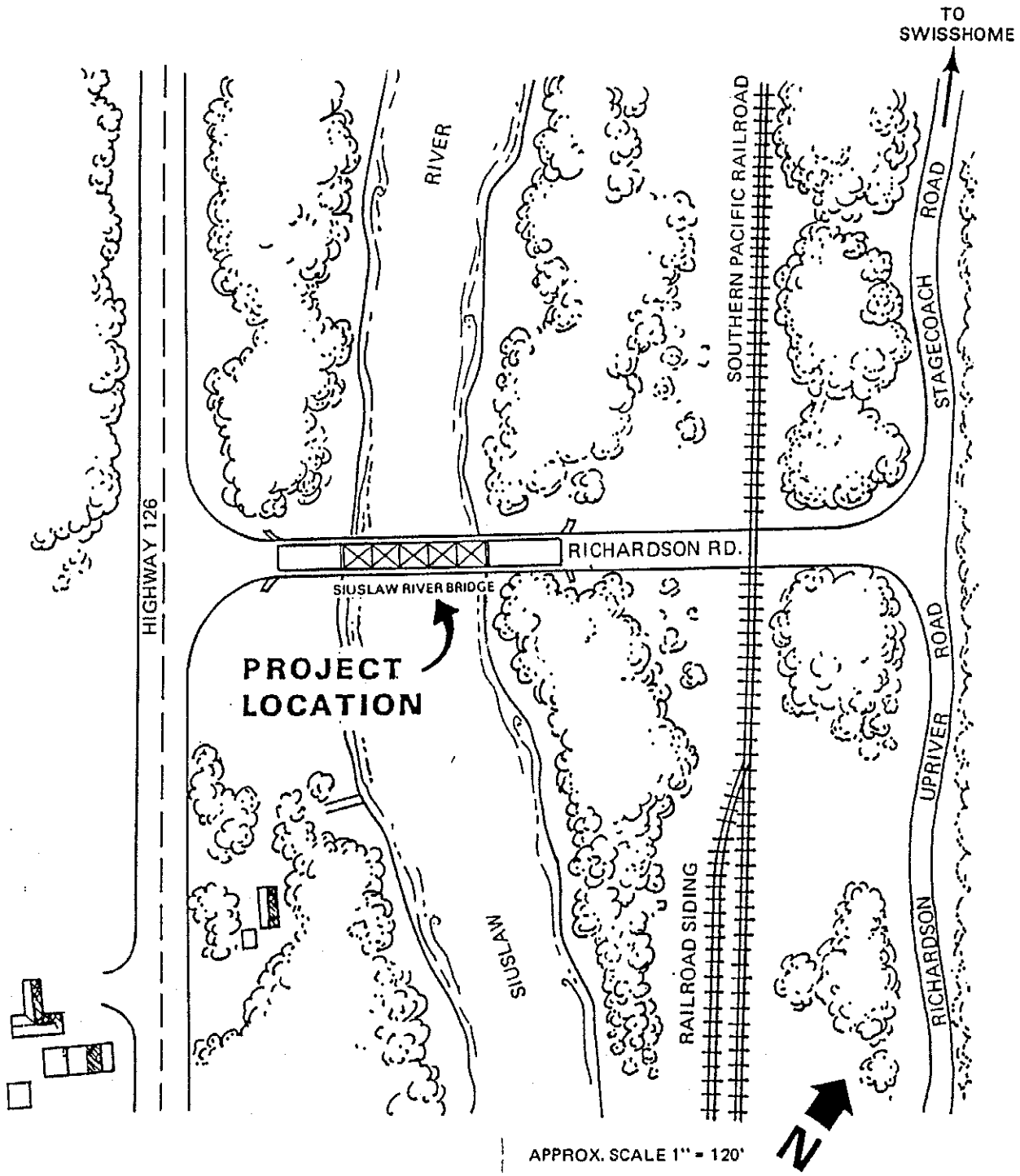
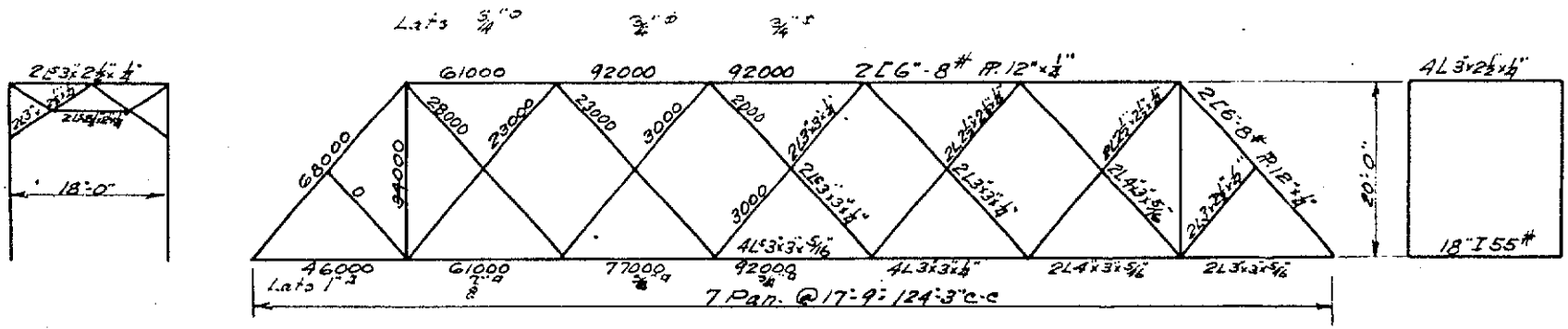
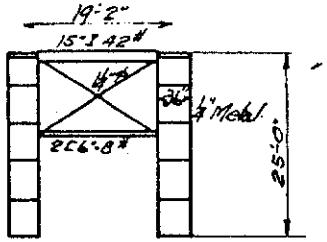


FIGURE 2
PROJECT VICINITY







Two Sets Piers Req'd.

Floor :- 4"
Joists :- 100 - 4"×14"
Hand Rail :- 2"×6" - 2"×6" - 3"×10" - 4"×6" - Posts 4"×6" } Furnished by County

Span Fabr. by :- Northwest Steel Co.
Order No. :- 1360
Weight :- 36779#

Tubes taken from C.B.Co.'s Stock Fabr. by B.B.&S.Co. Order No. 852
Weight :- 13182#

Prineville Bridge over Crooked River near Prineville, Ore.
Sold to Crook County Ore. Metal shipped to Redmond, Ore.
Material hauled by County Erected by E.D.Achey.

CONTRACT No. 165A
COAST BRIDGE COMPANY
PORTLAND, OREGON.

Contract dated 7-3-12

FIGURE 3

SIUSLAW RIVER BRIDGE
HAER No. OR-10
Page 8